BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

DOCKET NOS. 2021-143-E & 2021-144-E

In the Matters of:	**DIRECT TESTIMONY OF LYNDA SHAFER FOR DUKE ENERGY PROGRESS, LLC AND DUKE ENERGY CAROLINAS, LLC**
Application of Duke Energy Progress, LLC for Approval of Smart $aver Solar as Energy Efficiency Program	
Application of Duke Energy Carolinas, LLC for Approval of Smart $aver Solar as Energy Efficiency Program	

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lynda Sleigher Shafer, and my business address is 400 S. Tryon Street, Charlotte, North Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Corporation ("Duke Energy") as a Senior Strategy and Collaboration Manager for the Carolinas in the Portfolio Strategy and Support group.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I graduated from Bob Jones University with a Bachelor of Science Degree and later completed both a Master's in English and subsequently a Master's in Business Administration at the University of South Carolina. I began working with the Office of Regulatory Staff ("ORS") in 2009 as a Program Specialist in telecommunications and later as a Regulatory Analyst in the Electricity, Gas and Economics Department. While at ORS, I completed the National Association of Regulatory Utility Commissioners ("NARUC") Regulatory Studies program at Michigan State and the Eastern NARUC Utility Rate School. In 2016, I became a Financial Analyst for Santee Cooper where I was responsible for evaluating existing and proposed programs for cost effectiveness, coordinating collaboration among subject matter experts regarding renewables and demand-side management programs, and preparing the annual budget for energy efficiency operations. While at Santee Cooper, I completed the North Carolina State University McKimmon Center for Continuing Education Electric Meter School. I currently serve on the Board of Directors for the Southeast Energy Efficiency Alliance.

Q. HAVE YOU TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA (THE "COMMISSION") IN ANY PRIOR PROCEEDINGS?

A. Yes. I have appeared before this Commission in my role at Duke Energy in an ex parte hearing concerning Energy Efficiency and Demand-Side Management ("EE/DSM") program modifications in 2019. Additionally, in my role as a regulator at ORS, I testified before this Commission in two general rate cases, three annual fuel adjustment cases and one distributed energy resource program application case.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my direct testimony is to explain how the residential Smart $aver Solar as Energy Efficiency Programs (collectively, the "Program")—as proposed by Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP" and together with DEC, the "Companies")—will operate within the Companies' suites of EE/DSM programs.

Q. ARE YOU INCLUDING ANY EXHIBITS IN SUPPORT OF YOUR TESTIMONY?

A. No.

Q. PLEASE DESCRIBE THE PROGRAM INCENTIVE PROPOSED BY THE COMPANIES.

A. In order to incentivize energy efficiency, the Companies are proposing a one-time incentive payment of $0.36/Watt-DC based upon the direct current nameplate rating of the customer's solar photovoltaic ("PV") system. The incentive may be assigned to a solar installer or leasing company if the customer is in a lease arrangement. The incentive may be adjusted by the Companies on a periodic basis to reflect changes to efficiency standards and market conditions; however, the incentive will not exceed $0.36/Watt-DC. The

Companies will post the current amount of the incentive payment on their website at www.duke-energy.com.

Q. WHY IS AN INCENTIVE NECESSARY?

A. The intent of the Program is to incentivize the installation of PV systems by customers who would otherwise elect not to install PV because of the underlying economics. Similar to how the Companies evaluate customer decisions to invest in other EE equipment, the Companies used the Participant Cost Test analysis. Similar to other large capital investments like high-efficiency HVAC systems, absent the proposed EE incentives, the measure would not be cost-effective for the customer and customers may otherwise choose not to participate.

Q. WHO IS ELIGIBLE FOR THE PROGRAM?

A. In order to ensure the greatest energy savings, the Program's availability is limited to customers with all-electric service thereby ensuring that customers with gas service for water heating, cooking, clothes drying, and/or space conditioning do not apply. In order to maximize the system benefits resulting from the reduction in electricity consumption associated with the PV system, consistent with other EE/DSM programs, the system must be installed based on manufacturer's recommendations and the Companies' specifications, including installation by a contractor approved by the Companies.

Eligible customers must become a new Solar Choice Metering customer on or after January 1, 2022, and must comply with all installation and interconnection requirements of the Residential Solar Choice Rider.[1] The Residential Solar Choice Rider provided the foundation and time-of-use rate structure for net metering; the Program proposed in this

[1] The Solar Choice Program was approved by the Commission in Order No. 2021-390, issued in Docket Nos. 2020-264-E and 2020-265-E.

proceeding would incentivize customers to adopt solar PV as an EE measure. The Companies are not proposing to modify within these proceedings the Solar Choice Rider or how customers net meter.

Eligible customers must also participate in the winter-focused Power Manager Load Control Service Rider, also known as Bring Your Own Thermostat ("Winter BYOT").[2] Customers must sign a contractual agreement to remain enrolled in the Companies' Winter BYOT program for 25 years. More details regarding customer eligibility are contained within the draft tariffs included as Exhibit A to Duff Direct Exhibit Nos. 1 and 2.

Q. HOW CAN A CUSTOMER APPLY FOR THE PROGRAM?

A. New solar customer generators who qualify for the incentive will apply for interconnection through the same process as other solar customer generators. At the end of the interconnection application there will be a link to apply for the incentive, allowing the customer to complete the incentive application while the interconnection application is in pending status. The application for the Program will be made available on the Companies' website at www.duke-energy.com and instructions will be provided for completing and submitting the application. The application will gather additional information necessary to evaluate the measure and ensure that the correct incentive is paid to the customer as well as verifying the customer's enrollment in Winter BYOT. The incentive will be paid to the customer or to a designated third party once the interconnection is complete and the system is in service.

[2] The Winter BYOT Program was approved by the Commission for DEP in Order No. 2020-830 issued in Docket No. 2015-163-E, and for DEC in Order No. 2020-831 issued in Docket No. 2013-298-E.

Q. PLEASE EXPLAIN WHY A 25-YEAR TERM IS APPROPRIATE FOR THE PROGRAM.

A. The Companies are proposing a 25-year term for customers to remain in the Program based on industry standards related to the useful life of a solar PV system. According to the National Renewable Energy Laboratory or NREL, the useful life of a photovoltaics system is 25-40 years. *See, e.g.*, NREL, Useful Life, https://www.nrel.gov/analysis/tech-footprint.html. Use of industry standards is consistent with other DSM/EE measures and equipment and is a reasonable source of information for this EE program.

Q. MAY A CUSTOMER UNENROLL PRIOR TO THE END OF THAT 25-YEAR TERM?

A. Yes. However, if the customer chooses to unenroll from the Winter BYOT program, the customer must repay $200 for each year of the 25-year contract period that the customer is not enrolled, though the repayment amount will not exceed the customer's initial Program incentive payment amount. Likewise, if the customer opts out of more demand response events than the Winter BYOT Program allows, the customer will be charged a $200 fee representing an annual prorated share of the Program incentive. These fees will not apply if a customer moves out of the residence prior to the expiration of the 25-year time period or if the early termination is due to force majeure.

Q. HOW MANY CUSTOMERS DO THE COMPANIES EXPECT TO PARTICIPATE IN THE PROGRAM?

A. DEC projects that approximately 3,112 customers will participate in the Program, comprising approximately 31 MWs of additional solar capacity, cumulatively over five (5)

years. DEP projects that 595 customers will participate in the Program, comprising approximately 6 MWs of additional solar capacity over the same period of time.

Q. IS THERE A LIMIT ON THE NUMBER OF CUSTOMERS WHO CAN PARTICIPATE IN THE PROGRAM?

A. No. While there are restrictions on what qualifies a customer to participate in the Program, the Companies' Applications in this proceeding do not include a cap on the number of qualified customers that can participate in the Program.

Q. HOW DO THE COMPANIES PROPOSE TO RECOVER THE COSTS OF THE PROGRAM?

A. Because EE programs deliver system benefits realized across state borders, EE program costs—including consolidated administrative costs—are recognized across both South Carolina and North Carolina. To support the Program's cost effectiveness and to enable Program costs to be recovered according to the allocation of benefits, approval by this Commission and the North Carolina Utilities Commission is necessary prior to the Companies offering the Program to their customers. Just like other EE/DSM program costs, the Companies would recover Program costs through the Companies' annual EE/DSM rider proceedings pursuant to the cost recovery mechanism.

Q. HOW WILL THE COMPANIES EVALUATE THE PROJECTED SAVINGS OF THE PROGRAM?

A. Like every other EE/DSM program, the Companies will evaluate the projected savings of the Program through evaluation, measurement, and verification ("EM&V") by a third party once adequate participation allows for a statistically valid sample. EM&V studies will use industry-accepted methods to collect and analyze data; measure and analyze Program

participation; and evaluate, measure, verify, and validate the energy and peak demand savings.

As a component of the EM&V process evaluation, the Companies will also direct the evaluator to conduct a broad survey of both participating and non-participating residential customers to assess their acceptance of the Program. Tentative participation targets indicate that an EM&V evaluation could be possible approximately a year after initial Program implementation.

Q. WHAT IS YOUR RECOMMENDATION TO THE COMMISSION ABOUT THE PROGRAM?

A. The Program offers customers a unique opportunity to reduce their electricity consumption by installing solar PV measures and allows the Companies to encourage that adoption by making the measures more affordable. I recommend that the Commission approve the Program, as outlined in the Applications.

Q. DOES THIS CONCLUDE YOUR PREFILED DIRECT TESTIMONY?

A. Yes, it does.